

Serial No. 10/608,002

Attorney Docket No. 11-168

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LISTING OF CLAIMS

1-72. (Canceled)

73. (New) A computer system for handling an interactive dialog with a user of the computer system, comprising:

a data base that stores a dictionary containing a plurality of words and a plurality of phrases;

a recognition unit that recognizes a user's input and understands what the user says by referring to the dictionary stored in the data base;

a determining unit that determines an occurrence of user error in response to previous output by the computer system in a currently running interactive dialog;

a selection unit that selects a phrase to be used to continue the interactive dialog upon a determination that the user's input includes a word or a phrase indicating that the user has made an occurrence of an error in response to the computer system's previous output; and

an output unit that outputs the phrase to the user so as to answer to the user's input.

74. (New) The computer system according to claim 73, further comprising:

a learning unit that learns a new word when the user's input is not recognized and not found in the dictionary; and

a data base updating unit that updates the dictionary based on the user's response to a question about the user's input asked by the computer system.

75. (New) The computer system according to claim 74, further comprising:

a scenario interpreter that controls a flow of the interactive dialog based on a history of the user's inputs such that topics of the interactive dialog are directed to preferences of the user,

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wherein the selection unit selects words to output to the user, based on the current topics of the interactive dialog, to ensure that the interactive dialog is to be continued even when the computer system fails to recognize the user's input and finds that the user's input indicates that the user made the occurrence of the error in response to the computer system's previous output to the user.

76. (New) The computer system according to claim 75, further comprising:

an anticipating unit that anticipates a future response from the user if the word selected by the computer system be received and responded by the user.

77. (New) The computer system according to claim 76, wherein the data base further stores a plurality of words, each word having an indication of a degree of difficulty, further comprising:

a dialog management unit that stores the user's attributes, wherein

the selection unit selects the words and the phrase for answering to the user's input to those which have a degree of difficulty within a range of degrees of difficulty set up in accordance with the user's attributes.

78. (New) The computer system according to claim 75, further comprising:

a timer that counts an elapsed time after the output unit outputs the selected word selected by the selection unit to the user,

wherein the determining unit evaluates the degree of a user's satisfaction with a currently proceeding dialog between the user and the computer system taking into account the elapsed time counted by the timer.

79. (New) The computer system according to claim 75, further comprising:

a counter that counts a number of occurrences of an error by the computer to the word outputted by the user,

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wherein the selecting unit selects a wrong word that breaks the rule of the word chain game such that the user is a winner of a word chain game, if the number of occurrences of an error by the computer becomes greater than a predetermined number.

80. (New) The computer system according to claim 75, wherein

the computer system is configured to execute a word chain game which is played between a user and the computer system having a data base that stores a dictionary containing a plurality of words, the word chain game being a word-interchanging game in which iterative steps will be repeated until a loser is determined based on a judgment that either the user or the computer system is the first to breaks any rule of the word chain game, wherein the rules comprise:

that game players alternatively output a word which has an initial letter or letters identical with the final letter or letters of the immediately previous output word

the output word has not been used since the beginning of the word chain game, and

the output word does not end with any particular predetermined letters.

81. (New) The computer system according to claim 75, wherein

the data base of the computer system further stores a plurality of series of words which are chained in accordance with the rules of a word chain game, and

the selection unit selects the word to output to the user by referring to the plurality of series of words stored in the data base in order not to terminate the word chain game due to a difficulty for searching a next word.

82. (New) A computer readable storage medium storing executable instructions being executed by a computer having a data base that stores a dictionary containing a plurality of words and a plurality of phrases so as to perform an interactive dialog with a user thereby mimicking human-human communications, said instructions comprising the steps of:

recognizing a user's input and understanding what the user says by referring to the dictionary stored in the data base;

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determining an occurrence of a user error in response to previous output by the computer system in a currently running interactive dialog;

selecting a phrase to be used to continue the interactive dialog upon a determination that the user's input includes a word or a phrase indicating that the user has made an occurrence of an error in response to the computer system's previous output; and

outputting the phrase to the user so as to answer to the user's input.

83. (New) A method for interactively handling a dialog between a user of a computer system and the computer system, wherein the computer system has a dictionary containing a plurality of words and a plurality of phrases, comprising steps of:

recognizing a user's input and understanding what the user says by referring to the dictionary stored in the data base;

determining an occurrence of a user error in response to previous output by the computer system in a currently running interactive dialog;

selecting a phrase to be used to continue the interactive dialog upon a determination that the user's input includes a word or a phrase indicating that the user has made an occurrence of an error in response to the computer system's previous output; and

outputting the phrase to the user so as to answer to the user's input.

84. (New) The method according to claim 83, further comprising steps of:

learning a new word when the user's input is not recognized and not found in the dictionary; and

updating the dictionary based on the user's response to a question about the user's input asked by the computer system.

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85. (New) The method according to claim 84, further comprising a step of:

determining that the interactive dialog is to be continued when the computer system finds that the user's input includes a word or a phrase indicating that the user made an occurrence of an error in inputting the user's input into the computer system.

86. (New) The method according to claim 85, wherein,

in the step of determining that the interactive dialog is to be continued, consideration is taken of at least one of a profile of the user, a probability distribution of used words in user's inputs, a user's tone of voice, and a probability distribution of response times of the user, the response time is defined as a time period from a time when the computer system has outputted the phrase to the user to answer to a previous user's input to a further time when the user's input is received by the computer system.

87. (New) The method according to claim 86, further comprising:

selecting a wrong word to break a consistency of the interactive dialog so as to discontinue the interactive dialog.

88. (New) The method according to claim 87, further comprising steps of:

learning a new word and a new phrase which is not contained in the dictionary when the user's input is not recognized and not found in the dictionary by asking the user a question about the user's input and receiving a user's response until a recognition of the user's input is accomplished; and

updating the dictionary based on a user's response to the question about the user's input asked by the computer system.

89. (New) The method according to claim 84, further comprising a step of:

determining that the interactive dialog with the user is to be continued based on a result of an evaluated consistency of the interactive dialog with the user, wherein even if the user's input includes a word or a phrase that indicates that the user made an occurrence of the error in inputting the user's input to the computer system.

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90. (New) A method for executing a word chain game which is played by a user and a computer system having a data base that stores a dictionary containing a plurality of words, the word chain game being a word-interchanging game in which iterative steps will be repeated until a loser is determined based on a judgment that either the user or the computer system is the first to break any rule of the word chain game, wherin

the rules comprise:

that game players alternatively output a word which has an initial letter or letters identical with a final letter or letters of the immediately previous output word,

an output word has not been used since the beginning of the word chain game, and

an output word does not end with any particular predetermined letters, and

the method comprises:

recognizing a user's input;

determining that the user's input is allowed in respect to the rules of the word chain game;

selecting a wrong word in respect to the rules of the word chain game, the wrong word leading to termination of the word chain game due to breaking of one of the rules by the computer system; and

outputting an incorrect word to result in a user's win in the word chain game.

91. (New) The method according to claim 90, further comprising a steps of:

learning a new word when the user's input is not recognized and not found in the dictionary by asking the user a question about the user's input and receiving the user's response until a recognition of the user's input is accomplished; and

updating the dictionary based on a user's response to the question about the user's input asked by the computer system.

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92. (New) The method according to claim 91, wherein

the data base of the computer system further stores a plurality of series of words which are chained in accordance with the rules of the word chain game, and

wherein outputting a word for answering the user is selected from those included in the plurality of series of words stored in the data base in order not to terminate the word chain game due to a difficulty for searching for a next word.